



P23889.A04

Application No. 10/613,053

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Jun IMAMURA et al.

Group Art Unit : Unknown

Appln. No : 10/613,053

Examiner : Unknown

Filed : July 7, 2003

For : PROTEIN PARTICIPATING IN RESTORATION FROM CYTOPLASMIC MALE  
STERILITY TO FERTILITY AND GENE ENCODING THE PROTEIN AND GENE

### INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Sir :

In accordance with the duty of disclosure under 37 C.F.R. 1.56, 1.97, and 1.98, Applicants hereby bring the following information to the attention of the Examiner in charge of the above-identified application, which includes information cited and discussed in the specification, the International Search Report, and the International Preliminary Examination Report issued in connection with counterpart International Application No. PCT/JP02/04092.

Applicants note that the documents cited in this application are being submitted on even date herewith in parent Application No. 10/451,355, which is the national stage of PCT/JP02/04092. Therefore, in accordance with 37 C.F.R. 1.98(d), copies of the documents cited herein are not submitted herewith, and the Examiner is referred to the parent application. Moreover, copies of the International Search Report (in English and Japanese), and the International Preliminary Examination Report (in Japanese) were enclosed with the papers when entering the National Stage in

Application No. 10/451,355 on June 30, 2003. The Examiner is invited to review these materials to inspect the relevance indicated during international examination with respect to the documents cited therein.

If the Examiner needs copies of any of the documents in the instant application, Applicants will submit any document upon request by the Examiner.

M. Iwabuchi et al., *Plant Mol. Biol.* 39: 183-188. 1999, which is cited and discussed in the specification beginning on page 2, first full paragraph;

Jpn. J. Breeding 47 (separate volume 1): p. 186. 1997, which is cited and discussed in the specification beginning on page 2, first full paragraph;

Jpn. J. Breeding 48 (separate volume 1): p. 197. 1998, which is cited and discussed in the specification beginning on page 2, first full paragraph;

M. Grelon et al., *Mol. Gen. Genet.* 243: 540-547, which is cited and discussed in the specification beginning on page 2, second full paragraph;

N. Koizuka et al., *Theor. Appl. Genet.* 100: 949-955. 2000, which is cited and discussed in the specification beginning on page 2, second full paragraph;

Procedure of the Western Canada canola/rapeseed recommending committee incorporated for the evaluation and recommendation for registration of canola/rapeseed candidate cultivars in Western Canada: p6, 1996, which is cited and discussed in the specification beginning on page 3, first paragraph;

*Trends Biochem. Sci.* 2000, 25: 46-47, which is cited and discussed in the specification beginning on page 12, last paragraph;

Manthey et al. EMBO J 1995 14: 4031-4043, which is cited and discussed in the specification beginning on page 13, first full paragraph;

Coffin et al. Curr Genet 1997 32: 273-280, which is cited and discussed in the specification beginning on page 13, first full paragraph;

Fisk et al. EMBO J 1999 18: 2621-2630, which is cited and discussed in the specification beginning on page 13, first full paragraph;

W. Sakamoto et al.: Plant Cell Physiol. 41: 1157-1163, which is cited and discussed in the specification beginning on page 15, line 3;

Bonhomme et al.; Mol. Gen. Genet. 235: 340-348. 1992, which is cited and discussed in the specification beginning on page 15, second full paragraph;

JP Patent No. 2687396 with its translation (corresponding to Japanese Patent Laid-open Publication No.1-218530), which is cited and discussed in the specification beginning on page 17, last paragraph;

Sakai and Imamura, "Somatic hybridization between Radish (*Raphanus sativus*) and rapeseed (*Brassica napus*)", Biotechnology in Agriculture and Forestry, Vol. 27 Somatic hybridization in Crop Improvement. I (ed. By Y.P.S. Dajaj) Springer-Verlag Berlin Heidelberg, 1994, which is cited and discussed in the specification beginning on page 17, last paragraph;

Pelletier G. et al. Intergeneric cytoplasmic hybridization in cruciferae by protoplast fusion, Mol Gen Gent 191:244-250,1983, which is cited and discussed in the specification beginning on page 18, line 4;

Nucleic Acids Research, 1995, Vol. 23, No. 21: 4407-4414, which is cited and discussed in the specification beginning on page 22, last paragraph;

Murray, M. G. and Thompson, W. F. (1980) Nucleic Acids Res. 8: 4321-4325, which is cited and discussed in the specification beginning on page 25, first full paragraph;

Sin Idensi Kougaku Handbook. Zikken Igaku Sppl., Youdosya. 1996, which is cited and discussed in the specification beginning on page 30, last paragraph;

Nucleic Acids Research, 17, 9494 (1989), which is cited and discussed in the specification beginning on page 31, third paragraph;

DNA Cloning, A Practical Approach, 1, 49 (1985), which is cited and discussed in the specification beginning on page 31, third paragraph;

Mol. Gen. Biol., 3, 280 (1983), which is cited and discussed in the specification beginning on page 31, third paragraph;

J. Bacteriol., 172, 2392-2400 (1990), which is cited and discussed in the specification beginning on page 31, third paragraph;

Japanese Patent Laid-open Publication No. 58-110600, which is cited and discussed in the specification beginning on page 32, first full paragraph;

Agrc. Biol. Chem., 48, 669-275 (1984), which is cited and discussed in the specification beginning on page 32, first full paragraph;

Agrc. Biol. Chem., 53, 277-279 (1989), which is cited and discussed in the specification beginning on page 32, first full paragraph;

Proc. Natl. Acad. Sci. USA, 82, 4306-4310 (1985), which is cited and discussed in the specification beginning on page 32, first full paragraph;

U.S. Patent No. 4,686,191, which is cited and discussed in the specification beginning on page 32, first full paragraph;

U.S. Patent No. 4,939,094, which is cited and discussed in the specification beginning on page 32, first full paragraph;

U.S. Patent No. 5,160,735, which is cited and discussed in the specification beginning on page 32, first full paragraph;

Gene, 33, 103-119 (1985) , which is cited and discussed in the specification beginning on page 32, first full paragraph;

Japanese Patent Laid-open Publication No. 63-233798, accompanied by an English language abstract, which is cited and discussed in the specification beginning on page 32, first full paragraph;

Japanese Patent Laid-open Publication No. 3-22979, accompanied by an English language abstract, which is cited and discussed in the specification beginning on page 32, last paragraph;

Cytotechnology, 3, 133, (1990) , which is cited and discussed in the specification beginning on page 32, last paragraph;

Japanese Patent Laid-open Publication No. 2-227075, accompanied by an English language abstract, which is cited and discussed in the specification beginning on page 32, last paragraph;

Nature, 329, 840, (1987), which is cited and discussed in the specification beginning on page 32, last paragraph;

J. Biochem., 101, 1307 (1987), which is cited and discussed in the specification beginning on page 33, line 1;

Plant Cell Report, 15, 809-814 (1995), which is cited and discussed in the specification beginning on page 33, first full paragraph;

EMBO J. 6, 3901-3907 (1987) , which is cited and discussed in the specification beginning on page 33, first full paragraph;

Plant Cell Reports 10 (1991) 286-290, which is cited and discussed in the specification beginning on page 33, first full paragraph;

Gene 200 (1997) 107-116, which is cited and discussed in the specification beginning on page 33, first full paragraph;

PNAS 96 (1999) 6535-6540, which is cited and discussed in the specification beginning on page 33, first full paragraph;

Bioscience and Industry 55 (1997) 37-39, which is cited and discussed in the specification beginning on page 33, first full paragraph;

Mol. Gen. Genet (1990) 220, 389-392, which is cited and discussed in the specification beginning on page 33, second full paragraph;

The Journal of the American Medical Association, 199, 519 (1967), which is cited and discussed in the specification beginning on page 35, first full paragraph;

Science, 122, 501 (1952), which is cited and discussed in the specification beginning on page 35, first full paragraph;

Virology, 8, 396 (1959), which is cited and discussed in the specification beginning on page 35, first full paragraph;

Proceeding of the Society for the Biological Medicine, 73, 1 (1950), which is cited and discussed in the specification beginning on page 35, first full paragraph;

Plant Cell, 2 (12):1201-1224, 1990, which is cited and discussed in the specification beginning on page 38, third paragraph;

Plant Cell Physiol. 36 (3): 487-494, 1995, which is cited and discussed in the specification beginning on page 38, third paragraph;

Plant Breeding In: "Brassica Oilseeds Production and Utilization" Kimber, D. S, and D.I. McGregor (eds.) CAB International, Cambridge 153-175, 1995, which is cited and discussed in the specification beginning on page 42, line 4;

Delourme et al., "Rapeseed today and Tomorrow", 9th International Rapeseed Congress" Murphy, D. et al. (eds.) The Dorset Press, Dorchester Vol. 1:6-8 (1995), which is cited and discussed in the specification beginning on page 43, last paragraph;

T. Murashige and F. Skoog, Physiol. Plant. 15: 473, 1962, which is cited and discussed in the specification beginning on page 62, last paragraph;

Syuuzyunsya. Cell Engineering, Separate volume: Biotechnology Experiment Illustrated, (2) Fundamentals of gene analysis: 161 to 166, which is cited and discussed in the specification beginning on page 73, line 1;

G. Robbelen et al., "Variation in Rapeseed Glucosinolates and Breeding for Improved Meal Quality", Chapter 16, pp. 285-299 (1980), which is cited and discussed in the specification beginning on page 84, last full paragraph;

Catalogue of oilseed rape cultivars 1995 ed. compiled by Larry Serynk, Mycogen Plant Sciences 5649 E Buckeye Road Madison, Wisconsin USA 53716, which is cited and discussed in the specification beginning on page 84, last paragraph;

EP 599042 A and its U.S. family member U.S. Patent No. 5,644,066:

WO 92/05251;

U.S. Patent No. 5,973,233;

U.S. Patent No. 6,229,072;

Hiroshi YAMAGISHI, Distribution and allelism of restorer genes for ogura cytoplasmic male sterility in wild and cultivated radishes. Gene genet. Syst. 1998, vol. 73, No.2, p. 79-83;

Seiji MURAYAMA et al., Identification of RAPD and SCAR Markers Linked to a Restorer Gene for Ogura Cytoplasmic Male Sterility in Radish (*Raphanus sativus* L.) by bulked Segregant Analysis. Breeding Science. 1999. Vol. 49, No.2, p.115-121;

Analysis and Cloning of Eukaryotic Genomic DNA, pp. 9.30-37;

Extraction, Purification, and Analysis of Messenger RNA from Eukaryotic Cells, pp. 7.59-83;

In Vitro Amplification of DNA by the Polymerase Chain Reaction, pp. 14.2-17;

JP 2001-145497, accompanied by an English language abstract; and

N. Koizuka et al., "The Plant Journal (2003)" 34, pp. 407-415.



Applicants also specifically bring to the attention of the Examiner WO 03/006622 which claims priority of provisional U.S. applications, and designates the U.S., and Applicants note that claims in the instant application include similar subject matter to that recited in WO 03/006622.

A duly completed Form PTO-1449 is enclosed. The Examiner is accordingly requested to consider the information cited herein, and to the documents of record in this application by initialing in the appropriate spaces on the Form PTO-1449. Applicants respectfully request that the Examiner include a copy of the initialed Form PTO-1449 with the next communication from the U.S. Patent and Trademark Office.

Further to the U.S. Patent and Trademark Office's decision to waive the requirement under 37 C.F.R. 1.98 (a)(2)(i), copies of the U.S. patents and U.S. published patent applications are not enclosed herewith. However, if any copies are needed, the Examiner is respectfully requested to contact the undersigned.

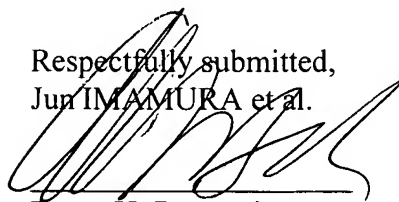
Applicants note that a fee should not be necessary for consideration of this disclosure statement. However, if any fee is required, Applicants hereby authorize the charging of any required fee necessary for consideration of this disclosure statement to Deposit Account No. 19-0089.

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Should there be any questions, the Examiner is invited to contact the undersigned at the below listed telephone number.

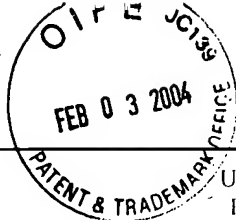
Respectfully submitted,  
Jun IMAMURA et al.



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Reg. No. 29,027

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January 29, 2004  
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Form PTO-1449

U.S. Department of Commerce  
Patent and Trademark OfficeAtty. Docket No.  
P23889Serial No.  
10/613,053

**INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT**  
(Use several sheets if necessary)

Applicant  
Jun IMAMURA et al.Filing Date  
July 7, 2003Group  
Not Known**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER						DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		4	6	8	6	1	9	1	08/11/87	ITOH et al.		
		4	9	3	9	0	9	4	07/03/90	KUGA et al.		
		5	1	6	0	7	3	5	11/03/92	YASUMURA et al.		
		5	6	4	4	0	6	6	07/01/97	SAKAI et al.		
		5	9	7	3	2	3	3	10/26/99	BURNS et al.		
		6	2	2	9	0	7	2	05/08/01	BURNS et al.		

**FOREIGN PATENT DOCUMENTS**

		DOCUMENT NUMBER						DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO	
		2	6	8	7	3	9	6	08/22/97	JAPAN		X	
	58	-	1	1	0	6	0	0	07/01/83	JAPAN			
	63	-	2	3	3	7	9	8	09/29/88	JAPAN			
		3	-	2	2	9	7	9	01/31/91	JAPAN			
	2	-	2	2	7	0	7	5	09/10/90	JAPAN			
		0	5	9	9	0	4	2	06/01/94	E.P.O.			
	9	2	/	0	5	2	5	1	04/02/92	W.I.P.O.			
	2001	-	1	4	5	4	9	7	05/29/01	JAPAN			
	03	/	0	0	6	6	2	2	01/23/03	W.I.P.O.			

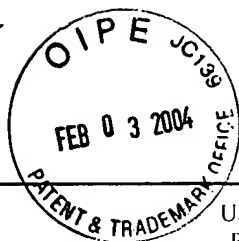
**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

	1	English Language Abstract of JP 63-233798.
	2	English Language Abstract of JP 3-22979.
	3	English Language Abstract of JP 2-227075.
	4	English Language Abstract of JP 2001-145497.

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



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## FOREIGN PATENT DOCUMENTS

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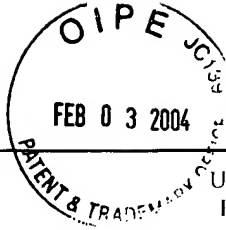
## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

5	M. Iwabuchi et al., Plant Mol. Biol. 39: 183-188. 1999
6	Jpn. J. Breeding 47 (separate volume 1): p. 186. 1997
7	Jpn. J. Breeding 48 (separate volume 1): p. 197. 1998
8	M. Grelon et al., Mol. Gen. Genet. 243: 540-547
9	N. Koizuka et al., Theor. Appl. Genet. 100: 949-955. 2000
0	Procedure of the Western Canada canola/rapeseed recommending committee incorporated for the evaluation and
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1 1	Trends Biochem. Sci. 2000, 25: 46-47
1 2	Manthey et al. EMBO J 1995 14: 4031-4043
1 3	Coffin et al. Curr Genet 1997 32: 273-280
1 4	Fisk et al. EMBO J 1999 18: 2621-2630
1 5	W. Sakamoto et al.: Plant Cell Physiol. 41: 1157-1163
1 6	Bonhomme et al.; Mol. Gen. Genet. 235: 340-348. 1992
1 7	Sakai and Imamura, "Somatic hybridization between Radish (Raphanus sativus) and rapeseed (Brassica napus)",
	Biotechnology in Agriculture and Forestry, Vol. 27 Somatic hybridization in Crop Improvement. I (ed. By Y.P.S.
	Dajaj) Springer-Verlag Berlin Heidelberg, 1994.

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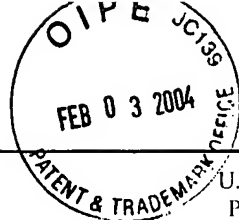
## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	1	8	Pelletier G. et al. Intergeneric cytoplasmic hybridization in cruciferae by protoplast fusion, Mol Gen Gent 191:244-250, 1983.
	1	9	Nucleic Acids Research, 1995, Vol. 23, No. 21: 4407-4414.
	2	0	Murray, M. G. and Thompson, W. F. (1980) Nucleic Acids Res. 8: 4321-4325.
	2	1	Sin Idensi Kougaku Handbook. Zikken Igaku Sppl., Youdosya. 1996.
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	3	7	PNAS 96 (1999) 6535-6540.
	3	8	Bioscience and Industry 55 (1997) 37-39.
	3	9	Mol. Gen. Genet (1990) 220, 389-392.
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4	9	Syuuzyunsya. Cell Engineering, Separate volume: Biotechnology Experiment Illustrated, (2) Fundamentals of gene analysis: 161 to 166.
5	0	G. Robbelen et al., "Variation in Rapeseed Glucosinolates and Breeding for Improved Meal Quality", Chapter 16, pp. 285-299 (1980).
5	1	Catalogue of oilseed rape cultivars 1995 ed. compiled by Larry Serynk, Mycogen Plant Sciences 5649 E Buckeye Road Madison, Wisconsin USA 53716.
5	2	Hiroshi Y AMAGISHI, Distribution and allelism of restorer genes for ogura cytoplasmic male sterility in wild and cultivated radishes. Gene genet. Syst. 1998, vol. 73, No.2, p. 79-83.
5	3	Seiji MURA Y AMA et al., Identification of RAPD and SCAR Markers Linked to a Restorer Gene for Ogura Cytoplasmic Male Sterility in Radish (Raphanus sativus L.) by bulked Segregant Analysis. Breeding Science. 1999. Vol. 49, No.2, p.115-121.
5	4	Analysis and Cloning of Eukaryotic Genomic DNA, pp. 9.30-37.
5	5	Extraction, Purification, and Analysis of Messenger RNA from Eukaryotic Cells, pp. 7.59-83
5	6	In Vitro Amplification of DNA by the Polymerase Chain Reaction, pp. 14.2-17
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